

In the Claims:

1. – 22. (Cancelled)

23. (Original) A method for remotely identifying visual and neurological abilities, for improving visual and neurological performance, or for both, the method comprising:

at a host terminal:

sending parameters to a client terminal;

at the client terminal:

receiving the parameters;

generating a set of images based upon the parameters;

presenting the set of images on a display screen;

receiving an input from a user based on the user's perception of the set

of images;

generating a further set of images based at least in part upon the parameters and based at least in part upon the user input;

generating user performance data based at least in part upon the user input;

sending the user performance data to the host terminal;

at the host terminal:

receiving the user performance data; and

analyzing the user performance data.

24. (Original) The method of claim 23, further comprising:

at the client terminal:

repeating the steps of generating a set of images, presenting the set of images, receiving an input from a user, and generating a further set of images until a predefined user goal has been reached.

25. (Original) The method of claim 23, further comprising:

at the client terminal:

sending a request to the host terminal for access to software for identifying visual and neurological abilities and improving visual and neurological performance.

26. (Original) The method of claim 23, further comprising:

at the client terminal:

calibrating the user's visual and neurological perception ability;

generating calibration data; and

wherein the step of generating a set of images is performed based at least in part on the calibration data.

27. (Original) The method of claim 23, further comprising:

at the host terminal:

generating a further set of parameters based at least in part upon the analysis of the user performance data.

28. (Original) A method for identifying visual and neurological abilities and improving visual and neurological performance via an Internet website, comprising:

providing the Internet website, wherein the website allows a user to access software for identifying visual and neurological abilities and improving visual and neurological performance;

generating a web page in response to a request to access the software, wherein the web page contains an image;

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sending the web page to the user over the Internet;

receiving an input from the user based on the user's perception of the image;

and

generating a subsequent web page based at least in part upon the user's input,

wherein the subsequent web page contains a further image.

29. (Original) The method of claim 28, wherein the further image is generated by modifying one or more characteristics of the image.

30. (Original) The method of claim 28, wherein the steps of generating the web page, sending the web page, and generating a further web page are repeated until a desired level of improvement has been achieved.

31. (Original) The method of claim 28, further comprising authenticating the user to determine if the user is authorized to access the system.

32. (Original) The method of claim 28, wherein the web page and the subsequent web page are generated by a processor that is communicatively coupled to one or more sequences of processor executable instructions for identifying visual and neurological abilities and improving visual and neurological performance.

33. (Original) The method of claim 28, wherein at least a portion of any data sent over the Internet is encrypted.

34. (Original) The method of claim 28, wherein at least a portion of the data sent over the Internet uses certificates for security.

35. (Original) The method of claim 28, further comprising evaluating the visual and neurological perception ability of the user by evaluating the user's responses to a series of images.

36. (Original) The method of claim 28, wherein the image and the further image comprise one or more Gabor patches.

37. (Original) The system of claim 9, wherein the step of generating a further image is carried out using a configuration that has a different size than the image.

38. (Original) The system of claim 9, wherein the step of generating a further image is carried out using a configuration that has a different exposure time than the image.

39. (Original) The system of claim 9, wherein the image comprises a plurality of objects arranged to form a non-collinear pattern.

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40. (NEW) A system for improving the visual perception ability of a user, comprising:

a client terminal including a display device, an input device, and a client processor;

and a host server including a host storage device, and a host processor communicatively coupled to said client processor;

said host storage device having stored therein a first plurality of parameters of images selectable to test the visual perception ability of the person with respect to at least one visual defect and to elicit responses from the person indicative of the presence or absence of said at least one visual defect, and a second plurality of parameters of images designed to treat the person with respect to a detected visual defect and thereby to improve the visual perception ability of the person with respect to such detected visual defect;

said display device being controlled by said client processor and host processor for displaying to the person, selected images of said first plurality of parameters and of said second plurality of parameters;

said client processor and host processor being controlled by said client input device:

- (a) to receive said first plurality of parameters, to generate a first plurality of images corresponding thereto, and to display said first plurality of images in said display device;
- (b) to register the responses inputted by the user via said input device;
- (c) to utilize said user responses to select the parameters of said second plurality of images in said host storage device corresponding to the images designed to treat the person with respect to a visual defect detected from said responses; and
- (d) to control said display device to display to the user, in a treatment phase, the selected images in said second plurality in at least one treatment session until the visual perception ability of the person has been improved with respect to said detected visual defect.

41. (NEW) The system of Claim 40, wherein the client terminal and the host server are communicatively coupled via a communications network.

42. (NEW) The system of Claim 41, wherein the communications network comprises the Internet.

43. (NEW) The system of Claim 40, wherein the client terminal further comprises:

a client storage device comprising a computer-readable medium communicatively coupled to the client processor;


a persistent memory communicatively coupled to the client processor;

and a communication interface communicatively coupled to the client processor, said interface being configured to transmit data to and from the host server via the communications network.

44. (NEW) The system of Claim 40, wherein the host server further comprises:

a persistent memory communicatively coupled to the host processor, and
a communication interface communicatively coupled to the host processor,
said interface being configured to transmit data to and from the client terminal via the
communications network.

45. (NEW) The system of Claim 44, wherein the host server further comprises:

 a user database communicatively coupled to the processor for storing user
information.

46. (NEW) The system of Claim 44, wherein one or more sequences of host
processor executable instructions are stored in the host storage device which cause the
host processor to perform a number of acts, comprising:

selecting parameters and delivering them to the client terminal;
receiving a set of user inputs from the client terminal;
analyzing the set of user inputs; and
generating one or more further parameters to deliver to the client terminal
based at least in part upon the analysis performed on the set of user inputs.

47. (NEW) The system of Claim 46, wherein the acts performed by the one or
more sequences of host processor executable instructions further comprise
authenticating a user.

48. (NEW) The system of Claim 43, wherein one or more sequences of client
processor executable instructions are stored in the client storage device which cause
the client processor to perform a number of acts, comprising:

generating an image;

receiving an input from a user based on the user's perception of the image; and generating a further image based on the input.

49. (NEW) The system of Claim 48, wherein the act of generating a further image is carried out by modifying one or more parameters of the image.

50. (NEW) The system of Claim 48, wherein the act of generating a further image is carried out by selecting a new image from a predefined set of images.

51. (NEW) The system of Claim 48, wherein the act of generating a further image is carried out using a configuration that is more difficult to perceive if the user does accurately perceive a characteristic of the image.

52. (NEW) The system of Claim 48, wherein the act of generating a further image is carried out using a configuration that is less difficult to perceive if the user does not accurately perceive a characteristic of the image.

53. (NEW) The system of Claim 48, wherein the acts to be performed by the client processor further comprise generating a series of images used to ascertain the visual and neurological perception ability of the user.

54. (NEW) The system of Claim 48, wherein the image generated comprises one or more Gabor patches.

55. (NEW) A method of improving the visual perception ability of a person, comprising:

in a client terminal, displaying to the person, in at least one evaluation session of an evaluation phase, a plurality of images selected to test the visual perception ability of the person with respect to at least one visual defect, and to elicit responses from the person indicative of the level of the person's visual perception ability with respect to said at least one visual defect;

communicating the responses of the person to a remotely-located host server;

utilizing said responses to select in the host server another plurality of images designed to treat the person with respect to a detected visual defect and thereby to improve the visual perception ability of the person with respect to the detected visual defect;

and in the client terminal, displaying to the person, in a treatment phase, said another plurality of images in at least one treatment session until the visual perception ability of the person has been improved with respect to said detected visual defect.

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56. (NEW) The method according to Claim 55, wherein said treatment phase includes a plurality of treatment sessions in each of which are displayed to the person a plurality of images designed to elicit responses to be used for selecting the plurality of images in the subsequent treatment session such as to progressively improve the visual perception ability of the person with respect to such detected visual defect.

57. (NEW) The method according to Claim 56, wherein at least one predetermined parameter of the plurality of images displayed in one treatment session is varied in the subsequent treatment session.

58. (NEW) The method according to Claim 56, wherein each of said treatment sessions includes a plurality of visual perception tasks in each of which there is displayed to the person at least one image designed to elicit a response useful for selecting at least one other image to be displayed in the subsequent visual perception task of the respective treatment session such as to progressively improve the visual perception ability of the person with respect to the detected defect.

59. (NEW) The method according to Claim 55, wherein said evaluation phase includes a plurality of evaluation sessions in each of which at least one plurality of images are displayed to the person to elicit responses, the responses of each

evaluation session being utilized to select the plurality of images to be displayed in the next evaluation session.

60. (NEW) The method according to Claim 59, wherein each of said evaluation sessions includes a plurality of visual perception tasks in each of which there is displayed to the person at least one image designed to elicit a response useful for selecting at least one other image to be displayed in the subsequent visual perception task of the respective evaluation session such as to progressively improve the evaluation of the visual perception ability of the person with respect to the detected defect.

61. (NEW) The method according to Claim 55, wherein said plurality of images in at least the treatment phase are images based on Gabor Functions.
